AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Original)   A distributed-feedback semiconductor laser comprising an active region for generating the gain of a laser beam and a diffraction grating formed in said active region, wherein

the front end surface out of the front and back end surfaces between which said active region is interposed has a reflectivity of 1 percent or less, the back end surface out of said two end surfaces has a reflectivity of 30 percent or more when viewed from the back end surface side toward the front,

the coupling coefficient κ of said diffraction grating is 100 cm^{-1} or more, the length L of said active region is 150μm or less, and

a combination of κ and L so that these parameters provide $\Delta\alpha/g_{th}$ of 1 or more, where $\Delta\alpha$ is the gain difference between modes and g_{th} is a threshold gain.

2. (Original)   The distributed-feedback semiconductor laser as defined in claim 1 wherein the product of said coupling coefficient κ and said active region length L is at least 1 and not more 3.

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3. (Currently Amended) The distributed-feedback semiconductor laser as defined in claim 1 or 2 wherein the active region length L is not longer than Lp where Lp is the length of the active region provided that the dependency of $\Delta\alpha/g_{th}$ on the active region length L is plotted and $\Delta\alpha/g_{th}$ is on a peak in value.

4. (Currently Amended) The distributed-feedback semiconductor laser as defined in any one of claims 1 to 3 wherein said diffraction grating is a gain coupled structure or loss coupled structure, or

has a structure in which two or three out of the gain coupled, loss coupled, and refractive index coupled structures are mixed, or

is of a structure that is refractive index coupled and $\lambda/4$ shifted.

5. (Currently Amended) The distributed-feedback semiconductor laser as defined in any one of claims 1 to 3 wherein said diffraction grating has a structure that is refractive index coupled and $\lambda/4$ shifted, and the $\lambda/4$ shift position is at a distance backward from the front end of said active region by 75 percent ± 5 percent where the longitudinal direction length of said active region is 100 percent.

6. (Currently Amended) The distributed-feedback semiconductor laser as defined in any one of claims 1 to 5 wherein the back end surface of said active region is formed by etching,

and the longitudinal direction length of the entire device including the distributed-feedback

semiconductor laser is longer than 150μm.

7. (Original) The distributed-feedback semiconductor laser as defined in claim 6

wherein said device is so structured to include another function region integrated behind the

distributed-feedback semiconductor laser through an end surface gap formed by said etching

process.

8. (Original) The distributed-feedback semiconductor laser as defined in claim 7

wherein said other function region has a light-receiving function.

9. (Original) The distributed-feedback semiconductor laser as defined in claim 8

wherein the front end surface of said other function region is formed tilted relative to the back

end surface of said active region.

10. (Currently Amended) The distributed-feedback semiconductor laser as defined in

any one of claims 7 to 9 wherein said other function region has a reflection function to said

active region.

11. (Currently Amended)   The distributed-feedback semiconductor laser as defined in ~~any one of~~ claims 1 ~~to 10~~ wherein the reflectivity of the back end surface of said active region is set to 90 percent or more.

12. (Original) The distributed-feedback semiconductor laser as defined in claim 11 wherein the reflectivity of the back end surface of said active region is set to 90 percent or more by providing a high-reflection film on said back end surface.

13. (Original) The distributed-feedback semiconductor laser as defined in claim 12 wherein a window that guides light out from said active region is formed on said high-reflection film.

14. (Currently Amended)   The distributed-feedback semiconductor laser as defined in ~~any one of~~ claims 1 ~~to 13~~ wherein materials that constitute said active region comprise at lease one selected from the group of Al, N and Sb.

15. (Currently Amended)   The distributed-feedback semiconductor laser as defined in ~~any one of claims~~ 1 ~~to 14~~ wherein the distributed-feedback semiconductor laser has a series resistance of 50 ohms ± 10 ohms.

16. (Currently Amended)   A distributed-feedback semiconductor laser array

monolithically comprising an array of the distributed-feedback semiconductor lasers as defined

in ~~any one of claims~~ 1 ~~to 15~~ wherein the distributed-feedback semiconductor lasers have

different wavelengths from one another.

17. (Currently Amended)   An optical module that comprises the distributed-feedback

semiconductor laser as defined in ~~any one of~~ claims 1 ~~to 15 or the distributed-feedback~~

~~semiconductor laser array as defined in claim 16~~.

18. (Canceled).

19. (Canceled).

20 (Canceled).

21. (Original):   A distributed-feedback semiconductor laser wherein an external

reflector is provided behind the distributed-feedback semiconductor laser as defined in claim 1.

22. (Canceled).

23. (New)   An optical module that comprises the distributed-feedback semiconductor

laser array as defined in claim 16.